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**Notice of Allowability**

Application No.

09/228,866

Examiner

Christopher Nichols, Ph.D.

Applicant(s)

RUOSLAHTI ET AL.

Art Unit

1647

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 31 August 2001.
2. ☒ The allowed claim(s) is/are 42-81.
3. ☒ The drawings filed on 12 January 1999 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
  - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No. \_\_\_\_\_.
  - (b) ☐ including changes required by the proposed drawing correction filed \_\_\_\_\_, which has been approved by the Examiner.
  - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. \_\_\_\_\_.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).**

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1 <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 5 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)          |
| 2 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                 | 6 <input checked="" type="checkbox"/> Interview Summary (PTO-413), Paper No. _____. |
| 3 <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No. _____ | 7 <input checked="" type="checkbox"/> Examiner's Amendment/Comment                  |
| 4 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material           | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
|   | 9 <input type="checkbox"/> Other  |

## DETAILED ACTION

### *Status of Application, Amendments, and/or Claims*

1. **Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.**
2. The Response and Amendment filed 31 August 2001 (Paper No. 19) has been entered. Pursuant to the Advisory Action mailed 27 February 2003 (Paper No. 23), the finality of the Office Action mailed 29 May 2001 (Paper No. 17) has been withdrawn and prosecution on the merits hereby reopened.
3. This Office Action is in response to the Response filed 31 August 2001 (Paper No. 19).
4. Claims 1-12 have been cancelled. Claims 13-41 are currently pending. Claims 13, 21, 22, 23, 25, 26, and 27 are withdrawn from consideration. Claims 14-20, 24, 28-41 are under examination.
5. All previously made objections and rejections are hereby *withdrawn*.
6. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 1647, Examiner Christopher Nichols.

## EXAMINER'S AMENDMENT

7. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

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In the Claims:

Claims 1-41 (Cancelled)

Claim 42 (New) An isolated peptide, comprising the amino acid sequence SEQ ID NO: 1.

Claim 43 (New) The isolated peptide of claim 42, consisting of the amino acid sequence SEQ ID NO: 1.

Claim 44 (New) An isolated peptide, comprising the amino acid sequence SEQ ID NO: 2.

Claim 45 (New) The isolated peptide of claim 44, consisting of the amino acid sequence SEQ ID NO: 2.

Claim 46 (New) An isolated peptide, comprising the amino acid sequence SEQ ID NO: 3.

Claim 47 (New) The isolated peptide of claim 46, consisting of the amino acid sequence SEQ ID NO: 3.

Claim 48 (New) An isolated peptide, comprising the amino acid sequence SEQ ID NO: 4.

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Claim 49 (New) The isolated peptide of claim 48, consisting of the amino acid sequence SEQ ID NO: 4.

Claim 50 (New) An isolated peptide, comprising the amino acid sequence SEQ ID NO: 5.

Claim 51 (New) The isolated peptide of claim 50, consisting of the amino acid sequence SEQ ID NO: 5.

Claim 52 (New) An isolated peptide, comprising the amino acid sequence SEQ ID NO: 6.

Claim 53 (New) The isolated peptide of claim 52, consisting of the amino acid sequence SEQ ID NO: 6.

Claim 54 (New) An isolated peptide, comprising the amino acid sequence SEQ ID NO: 7.

Claim 55 (New) The isolated peptide of claim 54, consisting of the amino acid sequence SEQ ID NO: 7.

Claim 56 (New) An isolated peptide, comprising the amino acid sequence SEQ ID NO: 8.

Claim 57 (New) The isolated peptide of claim 56, consisting of the amino acid sequence SEQ ID NO: 8.

Claim 58 (New) An isolated peptide, comprising the amino acid sequence SEQ ID NO: 9.

Claim 59 (New) The isolated peptide of claim 58, consisting of the amino acid sequence SEQ ID NO: 9.

Claim 60 (New) An isolated peptide, comprising the amino acid sequence SEQ ID NO: 16.

Claim 61 (New) The isolated peptide of claim 60, consisting of the amino acid sequence SEQ ID NO: 16.

Claim 62 (New) A conjugate, comprising a peptide covalently linked to a moiety, said peptide comprising the amino acid sequence SEQ ID NO: 1,

wherein said moiety is selected from the group consisting of a toxin, drug, chemotherapeutic agent, cell, and liposome.

Claim 63 (New) The conjugate of claim 62, wherein said peptide consists of the amino acid SEQ ID NO: 1.

Claim 64 (New) A conjugate, comprising a peptide covalently linked to a moiety, said peptide comprising the amino acid sequence SEQ ID NO: 2,

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wherein said moiety is selected from the group consisting of a toxin, drug, chemotherapeutic agent, cell, and liposome.

Claim 65 (New) The conjugate of claim 64, wherein said peptide consists of the amino acid SEQ ID NO: 2.

Claim 66 (New) A conjugate, comprising a peptide covalently linked to a moiety, said peptide comprising the amino acid sequence SEQ ID NO: 3,

wherein said moiety is selected from the group consisting of a toxin, drug, chemotherapeutic agent, cell, and liposome.

Claim 67 (New) The conjugate of claim 66, wherein said peptide consists of the amino acid SEQ ID NO: 3.

Claim 68 (New) A conjugate, comprising a peptide covalently linked to a moiety, said peptide comprising the amino acid sequence SEQ ID NO: 4,

wherein said moiety is selected from the group consisting of a toxin, drug, chemotherapeutic agent, cell, and liposome.

Claim 69 (New) The conjugate of claim 68, wherein said peptide consists of the amino acid SEQ ID NO: 4.

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Claim 70 (New) A conjugate, comprising a peptide covalently linked to a moiety, said peptide comprising the amino acid sequence SEQ ID NO: 5,

wherein said moiety is selected from the group consisting of a toxin, drug, chemotherapeutic agent, cell, and liposome.

Claim 71 (New) The conjugate of claim 70, wherein said peptide consists of the amino acid SEQ ID NO: 5.

Claim 72 (New) A conjugate, comprising a peptide covalently linked to a moiety, said peptide comprising the amino acid sequence SEQ ID NO: 6,

wherein said moiety is selected from the group consisting of a toxin, drug, chemotherapeutic agent, cell, and liposome.

Claim 73 (New) The conjugate of claim 72, wherein said peptide consists of the amino acid SEQ ID NO: 6.

Claim 74 (New) A conjugate, comprising a peptide covalently linked to a moiety, said peptide comprising the amino acid sequence SEQ ID NO: 7,

wherein said moiety is selected from the group consisting of a toxin, drug, chemotherapeutic agent, cell, and liposome.

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Claim 75 (New) The conjugate of claim 74, wherein said peptide consists of the amino acid SEQ ID NO: 7.

Claim 76 (New) A conjugate, comprising a peptide covalently linked to a moiety, said peptide comprising the amino acid sequence SEQ ID NO: 8,

wherein said moiety is selected from the group consisting of a toxin, drug, chemotherapeutic agent, cell, and liposome.

Claim 77 (New) The conjugate of claim 76, wherein said peptide consists of the amino acid SEQ ID NO: 8.

Claim 78 (New) A conjugate, comprising a peptide covalently linked to a moiety, said peptide comprising the amino acid sequence SEQ ID NO: 9,

wherein said moiety is selected from the group consisting of a toxin, drug, chemotherapeutic agent, cell, and liposome.

Claim 79 (New) The conjugate of claim 78, wherein said peptide consists of the amino acid SEQ ID NO: 9.

Claim 80 (New) A conjugate, comprising a peptide covalently linked to a moiety, said peptide comprising the amino acid sequence SEQ ID NO: 16,

wherein said moiety is selected from the group consisting of a toxin, drug, chemotherapeutic agent, cell, and liposome.



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Claim 81 (New) The conjugate of claim 80, wherein said peptide consists of the amino acid SEQ  
ID NO: 16.

In the first line of the Specification:

This application is a continuation of Application No. 08/526,708 filed 11 September  
1995, now abandoned.

8. Authorization for this examiner's amendment was given in a telephone interview with  
Andrea L. Gashler (Reg. No. 41,029) on 10 December 2003.

#### **REASONS FOR ALLOWANCE**

9. The following is an examiner's statement of reasons for allowance: The above  
Examiner's Amendment was accepted to expedite prosecution of the instant invention. The  
finality of the last Office Action was withdrawn and a new Office Action prepared herein. After  
performing a new sequence search it became clear to the Examiner that the instant peptides were  
free of the art and had utility as they selectively "homed" to select organs (see Table 1).

10. The Examiner acknowledges that acceptance of the above Examiner's Amendment does  
not mitigate in any way, shape, or form, Applicant's right to pursue additional subject matter in  
continuation, continuation-in-part, and/or divisional applications pursuant to 35 U.S.C. §120 and  
§121.

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11. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

*Summary*

12. Claims **42-81** are hereby allowed.

13. The following articles, patents, and published patent applications were found by the Examiner during the art search while not relied upon are considered pertinent to the instant application:

- a. US 2002/0041898 A1 (11 April 2002) Unger *et al.*
- b. US 2003/0175819 A1 (18 September 2003) Reed *et al.*

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### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Christopher James Nichols, Ph.D.** whose telephone number is 703-305-3955. The examiner can normally be reached on Monday through Friday, 8:00AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Gary Kunz, Ph.D.** can be reached on 703-308-4623. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9307 for After Final communications. The fax phone numbers for the customer service center is 703-872-9305.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

CJN  
December 10, 2003

  
**GARY KUNZ**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 1600**

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In the Claims:

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Claims 1-41 (Cancelled)

<sup>1</sup>  
Claim ~~42~~ (New) An isolated peptide, comprising the amino acid sequence SEQ ID NO: 1.

<sup>2</sup>  
Claim ~~43~~ (New) The isolated peptide of claim <sup>1</sup>~~42~~, consisting of the amino acid sequence SEQ ID NO: 1.

<sup>3</sup>  
Claim ~~44~~ (New) An isolated peptide, comprising the amino acid sequence SEQ ID NO: 2.

<sup>4</sup>  
Claim ~~45~~ (New) The isolated peptide of claim <sup>3</sup>~~44~~, consisting of the amino acid sequence SEQ ID NO: 2.

<sup>5</sup>  
Claim ~~46~~ (New) An isolated peptide, comprising the amino acid sequence SEQ ID NO: 3.

<sup>6</sup>  
Claim ~~47~~ (New) The isolated peptide of claim <sup>5</sup>~~46~~, consisting of the amino acid sequence SEQ ID NO: 3.

<sup>7</sup>  
Claim ~~48~~ (New) An isolated peptide, comprising the amino acid sequence SEQ ID NO: 4.

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Claim <sup>8</sup>~~49~~ (New) The isolated peptide of claim <sup>7</sup>~~48~~, consisting of the amino acid sequence SEQ ID NO: 4.

Claim <sup>9</sup>~~50~~ (New) An isolated peptide, comprising the amino acid sequence SEQ ID NO: 5.

Claim <sup>10</sup>~~51~~ (New) The isolated peptide of claim <sup>9</sup>~~50~~, consisting of the amino acid sequence SEQ ID NO: 5.

Claim <sup>11</sup>~~52~~ (New) An isolated peptide, comprising the amino acid sequence SEQ ID NO: 6.

Claim <sup>12</sup>~~53~~ (New) The isolated peptide of claim <sup>11</sup>~~52~~, consisting of the amino acid sequence SEQ ID NO: 6.

Claim <sup>13</sup>~~54~~ (New) An isolated peptide, comprising the amino acid sequence SEQ ID NO: 7.

Claim <sup>14</sup>~~55~~ (New) The isolated peptide of claim <sup>13</sup>~~54~~, consisting of the amino acid sequence SEQ ID NO: 7.

Claim <sup>15</sup>~~56~~ (New) An isolated peptide, comprising the amino acid sequence SEQ ID NO: 8.

Claim <sup>16</sup>~~57~~ (New) The isolated peptide of claim <sup>15</sup>~~56~~, consisting of the amino acid sequence SEQ ID NO: 8.

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<sup>17</sup>  
Claim ~~58~~ (New) An isolated peptide, comprising the amino acid sequence SEQ ID NO: 9.

<sup>18</sup> <sup>17</sup>  
Claim ~~59~~ (New) The isolated peptide of claim ~~58~~, consisting of the amino acid sequence SEQ ID NO: 9.

<sup>19</sup>  
Claim ~~60~~ (New) An isolated peptide, comprising the amino acid sequence SEQ ID NO: 16.

<sup>20</sup> <sup>19</sup>  
Claim ~~61~~ (New) The isolated peptide of claim ~~60~~, consisting of the amino acid sequence SEQ ID NO: 16.

<sup>21</sup>  
Claim ~~62~~ (New) A conjugate, comprising a peptide covalently linked to a moiety, said peptide comprising the amino acid sequence SEQ ID NO: 1,

wherein said moiety is selected from the group consisting of a toxin, drug, chemotherapeutic agent, cell, and liposome.

<sup>22</sup> <sup>21</sup>  
Claim ~~63~~ (New) The conjugate of claim ~~62~~, wherein said peptide consists of the amino acid SEQ ID NO: 1.

<sup>23</sup>  
Claim ~~64~~ (New) A conjugate, comprising a peptide covalently linked to a moiety, said peptide comprising the amino acid sequence SEQ ID NO: 2,

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wherein said moiety is selected from the group consisting of a toxin, drug, chemotherapeutic agent, cell, and liposome.

<sup>24</sup>  
Claim ~~65~~ (New) The conjugate of claim ~~64~~<sup>23</sup>, wherein said peptide consists of the amino acid SEQ ID NO: 2.

<sup>25</sup>  
Claim ~~66~~ (New) A conjugate, comprising a peptide covalently linked to a moiety, said peptide comprising the amino acid sequence SEQ ID NO: 3,

wherein said moiety is selected from the group consisting of a toxin, drug, chemotherapeutic agent, cell, and liposome.

<sup>26</sup>  
Claim ~~67~~ (New) The conjugate of claim ~~66~~<sup>25</sup>, wherein said peptide consists of the amino acid SEQ ID NO: 3.

<sup>27</sup>  
Claim ~~68~~ (New) A conjugate, comprising a peptide covalently linked to a moiety, said peptide comprising the amino acid sequence SEQ ID NO: 4,

wherein said moiety is selected from the group consisting of a toxin, drug, chemotherapeutic agent, cell, and liposome.

<sup>28</sup>  
Claim ~~69~~ (New) The conjugate of claim ~~68~~<sup>27</sup>, wherein said peptide consists of the amino acid SEQ ID NO: 4.

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<sup>29</sup>  
Claim ~~70~~ (New) A conjugate, comprising a peptide covalently linked to a moiety, said peptide comprising the amino acid sequence SEQ ID NO: 5,

wherein said moiety is selected from the group consisting of a toxin, drug, chemotherapeutic agent, cell, and liposome.

<sup>30</sup> <sup>29</sup>  
Claim ~~71~~ (New) The conjugate of claim ~~70~~, wherein said peptide consists of the amino acid SEQ ID NO: 5.

<sup>31</sup>  
Claim ~~72~~ (New) A conjugate, comprising a peptide covalently linked to a moiety, said peptide comprising the amino acid sequence SEQ ID NO: 6,

wherein said moiety is selected from the group consisting of a toxin, drug, chemotherapeutic agent, cell, and liposome.

<sup>32</sup> <sup>31</sup>  
Claim ~~73~~ (New) The conjugate of claim ~~72~~, wherein said peptide consists of the amino acid SEQ ID NO: 6.

<sup>32</sup>  
Claim ~~74~~ (New) A conjugate, comprising a peptide covalently linked to a moiety, said peptide comprising the amino acid sequence SEQ ID NO: 7,

wherein said moiety is selected from the group consisting of a toxin, drug, chemotherapeutic agent, cell, and liposome.



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<sup>34</sup>  
Claim ~~75~~ (New) The conjugate of claim ~~74~~<sup>33</sup>, wherein said peptide consists of the amino acid SEQ ID NO: 7.

<sup>35</sup>  
Claim ~~76~~ (New) A conjugate, comprising a peptide covalently linked to a moiety, said peptide comprising the amino acid sequence SEQ ID NO: 8,  
wherein said moiety is selected from the group consisting of a toxin, drug, chemotherapeutic agent, cell, and liposome.

<sup>36</sup>  
Claim ~~77~~ (New) The conjugate of claim ~~76~~<sup>35</sup>, wherein said peptide consists of the amino acid SEQ ID NO: 8.

<sup>37</sup>  
Claim ~~78~~ (New) A conjugate, comprising a peptide covalently linked to a moiety, said peptide comprising the amino acid sequence SEQ ID NO: 9,  
wherein said moiety is selected from the group consisting of a toxin, drug, chemotherapeutic agent, cell, and liposome.

<sup>38</sup>  
Claim ~~79~~ (New) The conjugate of claim ~~78~~<sup>37</sup>, wherein said peptide consists of the amino acid SEQ ID NO: 9.

<sup>39</sup>  
Claim ~~80~~ (New) A conjugate, comprising a peptide covalently linked to a moiety, said peptide comprising the amino acid sequence SEQ ID NO: 16,  
wherein said moiety is selected from the group consisting of a toxin, drug, chemotherapeutic agent, cell, and liposome.

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Claim <sup>40</sup>~~81~~ (New) The conjugate of claim <sup>39</sup>~~80~~, wherein said peptide consists of the amino acid SEQ  
ID NO: 16.

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In the first line of the Specification:

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This application is a continuation of Application No. 08/526,708 filed 11 September  
1995, now abandoned.

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8. Authorization for this examiner's amendment was given in a telephone interview with  
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§121.